

ABSTRACT OF THE DISCLOSURE

An ionic current detection apparatus for an internal combustion engine does not generate a false ionic current, and hence it does not generate a false knock component signal either, thereby avoiding an incorrect combustion determination or an incorrect knock determination. The apparatus detects an ionic current generated in spark plugs connected with secondary sides of a plurality of ignition coils, respectively, each of which generates a high ignition voltage immediately after firing of a corresponding combustion chamber. The ignition coils are arranged in such a manner that at least the directions of adjacent ignition coils do not coincide with one another. In addition, the ignition coils are fixed by a fixture, which has arrangement positions for the ignition coils predetermined according to the mounting directions thereof, in such a manner that the directions of adjacent ignition coils do not coincide with one another, the ignition coils being installed on the engine through the fixture.